

CASE STUDY: EIKO.CH



- Website Summary -

This website was developed by Swiss web developer Greg Lemmenmeier ([Website](#) | [CV](#)). Work done was:

Site with total **96 browser pages, hand-coded HTML5 / CSS3 / jQuery**, W3C valid, bi-lingual, custom CMS, Programming (PHP5/JS/jQuery), **custom CMS and Administration System development**, search engine, sitemap, Google Maps app, website design, printout design, editorial corrections, content conversion, SEO, speed optimization, client consulting, project documentation, host / domain transfer, website installation.

This site was made with [PHP 5](#), [MySQL 5](#), [HTML5](#) ("valid website"), [CSS 3](#), [jQuery](#) and [Google Maps API](#).

Database Development

For this website, I programmed and filled a MySQL 5 database that can hold all bi-lingual webpages (DE/EN), reference properties, map coordinates, staff bios, website-wide settings, admin action logs, and access logs.

Pixel-precise Layouting

The website's layout was **perfectly aligned** horizontally and vertically, and tested in all mainstream browsers. You can see, for example, how I formatted the menu to be the same width as the logo. Special PHP functions were programmed for the CMS: e.g. retrieve 4 photos from the database, but the 4th without right margin.

The screenshot displays the EIKO website interface. At the top left is the EIKO logo. The main header features a large image of a modern building. Below this, a navigation bar includes 'HOME', 'BELL & TATUM MEDICAL BUILDING, PHOENIX, AZ', and 'DE EN SITEMAP SEARCH'. A left sidebar contains 'SERVICES', 'REFERENCES' (with flags for CH, DE, USA), 'LINKS', and 'CONTACT'. The main content area shows a grid of four photos, followed by a table of property details:

Building:	2-story medical office building - multi tenant
Building Size:	31,887 sq.ft. (2,962 m2)
Lot Size:	2.998 acres (12,132 m2)
Location:	Phoenix, AZ
Tenant:	Medical doctors and health services
Parking:	Asphalt parking lot
Completion:	July 1989

Below the table is a map of Phoenix, AZ, with a search bar and zoom controls. The footer contains copyright information: © Copyright 2011 EIKO Immobilien AG | info@eiko.ch | +41 (0)41 729 4343 | Valid HTML5.

Website Logo

As is often the case, a company logo cannot be directly used for a website. In this case, I decided to optimize it a little (to improve the bad **Kerning**) and add subtle **highlights** to make it look elegant to real estate investors (the target audience of this website).

I chose a dark blue background. This color has been used for centuries in the sector of high yield investments.

Attractive Interface Ideas

To make this website both **unique** and **attractive**, I thought of several ideas:

- I found a great photo for start page
- Active menu shows the firm's icon
- Language switch is very compact
- "REFERENCES" menu acts "smart"
- "SEARCH" function is very compact
- Auto-zooming (for images + forms)
- Drop shadows (but not too much)
- 3D animated logo in Admin System

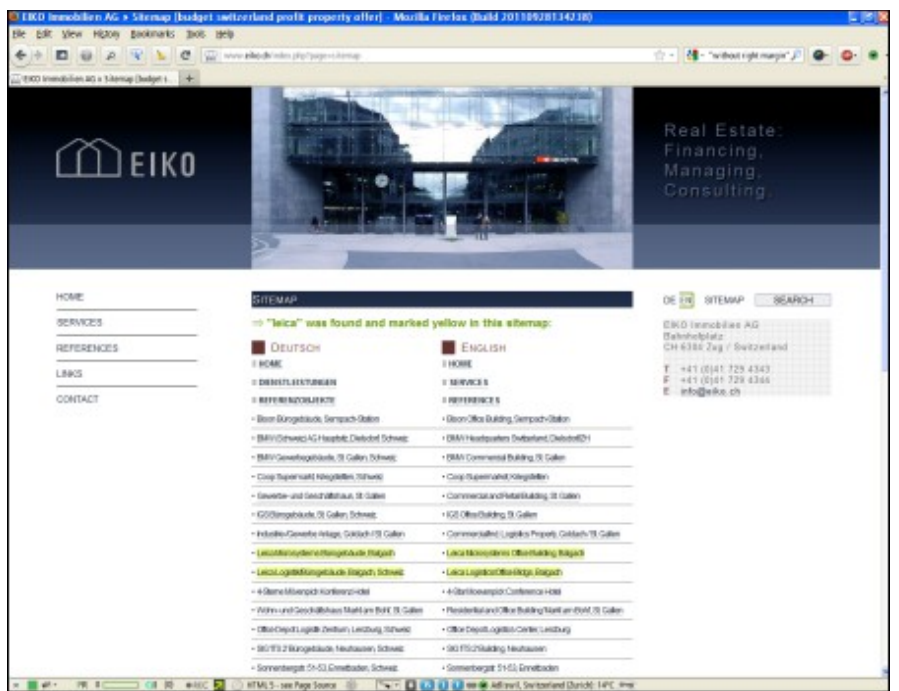
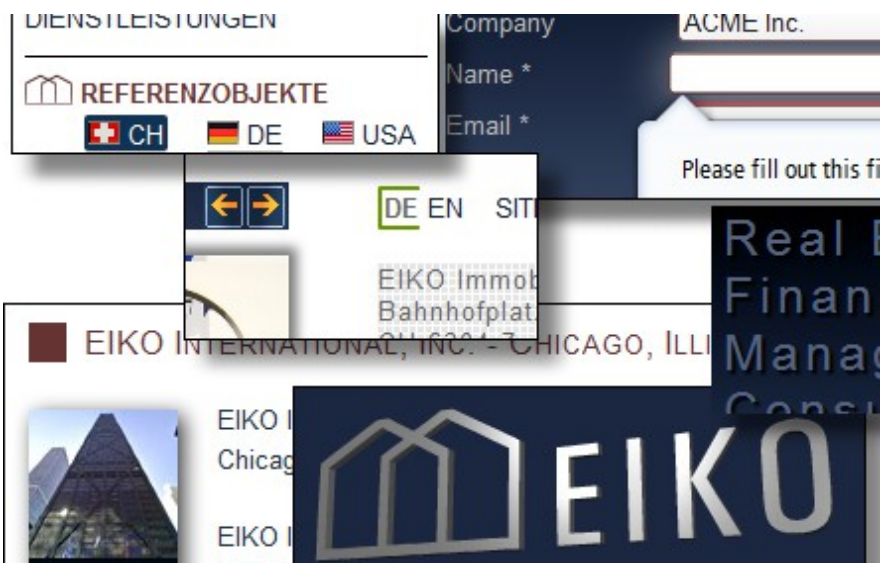
Nowadays, web users prefer layouts that are totally **clear** and contain no clutter — a.k.a. "Reduce to the Max".

Sitemap + Search Engine

An integrated sitemap **is useful** for the visitors, and helps in SEO to get a new site deeper indexed by the Googlebots. This sitemap **auto-updates** whenever the administrators add (or change) a webpage, reference property, or bio.

For cross-checking, I programmed this in a **super compact form**, so German and English versions are **in parallel**. As a smart solution, I **integrated the search engine** right into the sitemap! Searching is site-wide i.e. in **all** pages. This sitemap was tough to program.

Links that have not yet been visited are shown with a subtle underline - while **visited links** have no such underlines.



Design of usable Printouts

On most other websites. . . when you print out a page from your browser, the printed page on paper is often not usable. In a professionally developed website, this must be solved better.

For this site, I designed the **printout styles** so that every printed page:

- does not show any menu/nav. items
- shows a special logo (on white bkg.)
- shows the domain at the end, in red
- gets printed in a large enough font

Better than the normal method, I did not use ".css" files (or even a separate "print-style.css" which is not needed), but I programmed a **PHP script** that generates one CSS file incl. all "print styles". This CSS file includes updated info taken from the MySQL database

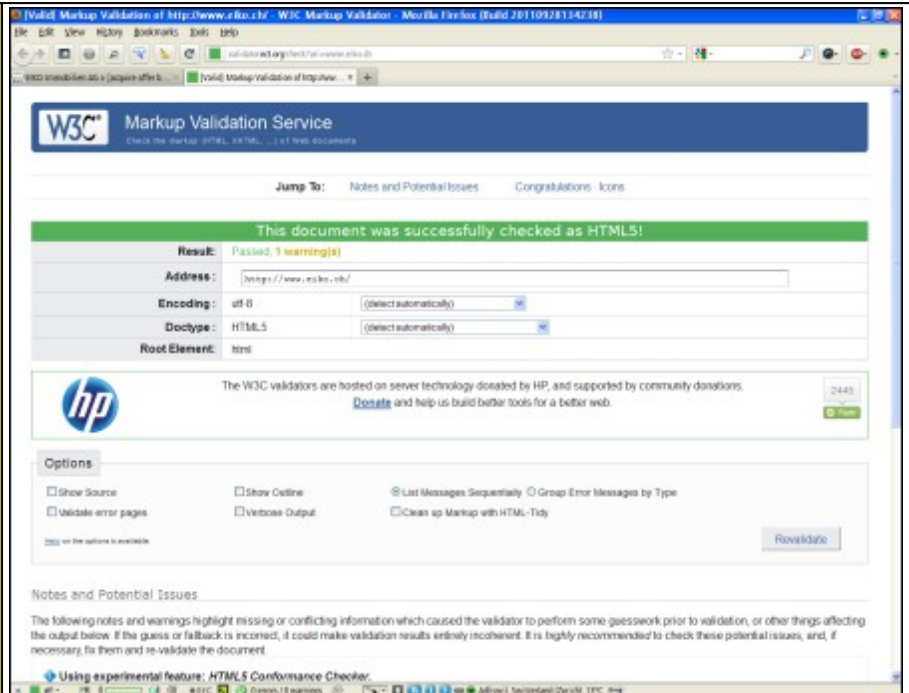


HTML5, perfectly coded

I made this site in the **new and much improved HTML5** markup language, not in the old XHTML or even HTML4 as can still be seen in other websites.

The Website **"is valid"** which means it validates in the official W3C validator. Validity of a website brings **several advantages** e.g. it looks the same in **different browsers**, it loads **faster** (as the browser doesn't have to correct errors while loading it), and it's **good for SEO** (search engine optimization).

Coding a site in the "HTML5" format **and** make it perfect ("valid") will often require more work, but most websites in the future will be made with HTML5.



Other components developed:

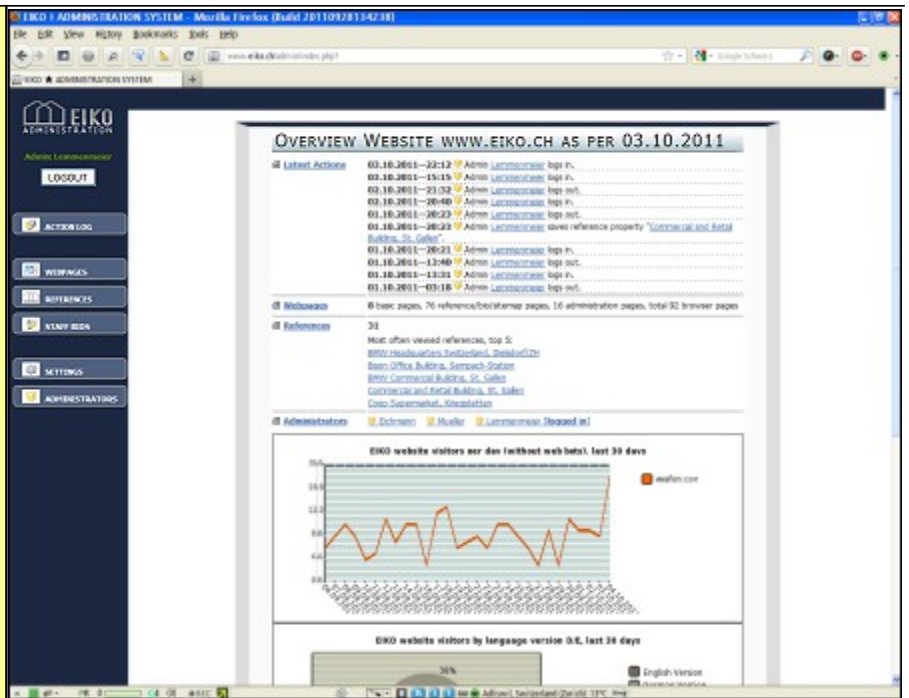
- ".htaccess" file with a "301 redirect" to **prevent Google's "double content penalty"** if "www." and "http://". ".htaccess" file: Also blocks out hacker stuff e.g. bad bots, libwww-perl, base64 strings, script strings etc.
- "robots.txt" file. Special solutions: **Do not index the "Links" page** (bad for SEO). All JS and CSS are excluded.
- "sitemap.xml" file, Wrote Google Site Map with **48 links**, new format. Smart solution: **sitemap.php on top** !
- "favicon.ico". Bookmark icon for users. It wasn't easy to get the logo and name into the tiny 16x16 format.

The Administration System

For this site, I **custom-developed** and tailored an **easy-to-use** system for the client's website administrators. With this system, they can edit the website and also monitor its performance.

After an Admin logs in, he first sees an **automatically updated overview page:**

- Log of the 10 latest admin actions
- Statistics (total pages, refs, bios etc.)
- "Top 5" references viewed by visitors
- List of currently active administrators
- **Chart of unique visitors** (last 30 d.)
- **Chart of selected language** (DE/ EN)
- Info on how to use the Admin System
- Info on webhost (and contact person)
- Info on technologies used (with links)
- Info on who developed this site (CV)
- Useful links, e.g. to see all backlinks



- **Compact and self-explanatory** system
- 15 different Administrator pages
- System designed similar to website
- Written in English (Admin in USA)
- **All necessary functions to edit site**
- **English and German on same page**

- **Very clear add/edit/delete actions**
- **Confirmations** before any deletions
- **Logs with precise texts** (who + what)

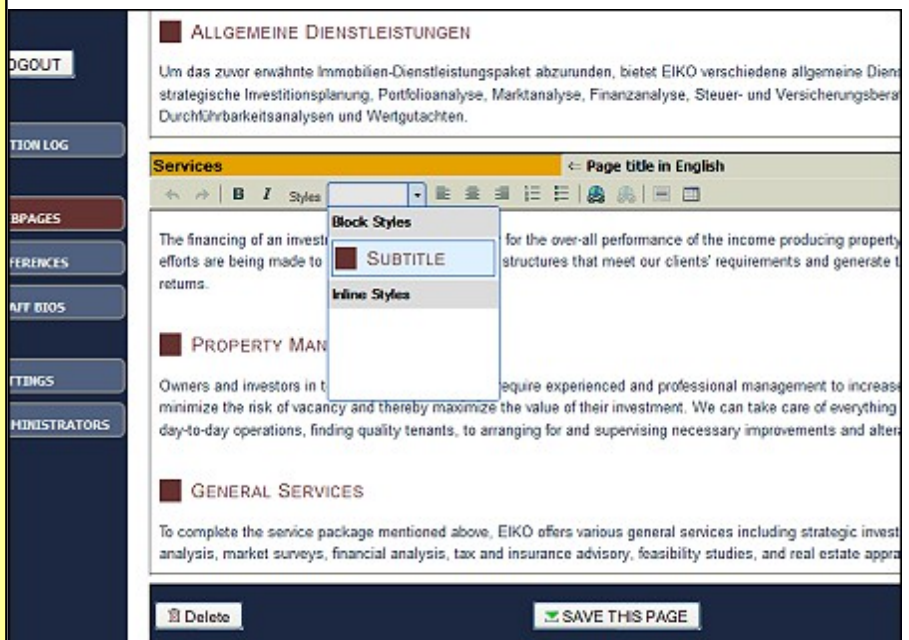
- **Webpage editor** = custom adapted
- Admin previews in -true- WYSIWYG
- No pointless formats (e.g. underline)
- Editor uses same styles as website

- Made for client = no cryptic language
- IP addresses stored, links to WHOIS
- Clear user feedback (anim. "loader")
- Icons + buttons are custom designed
- Menu at the left is static (via CSS3)
- Table row highlighting on mouseover

- **Special edit:** 'Staff Bios' (initials = link)
- Special upload of photos: 'References'
- Special editing: 'References' (country)
- Special editing: **Map locations (pins)**

- All website settings can be edited
- Editor for SEO tags, keywords (D/E)
- Including links to Search Eng. Trends

- **Admin accounts** (add/edit/delete)
- Assistants cannot access other acct.
- Notification (auto-emails) for changes
- Shows last login, real name and email



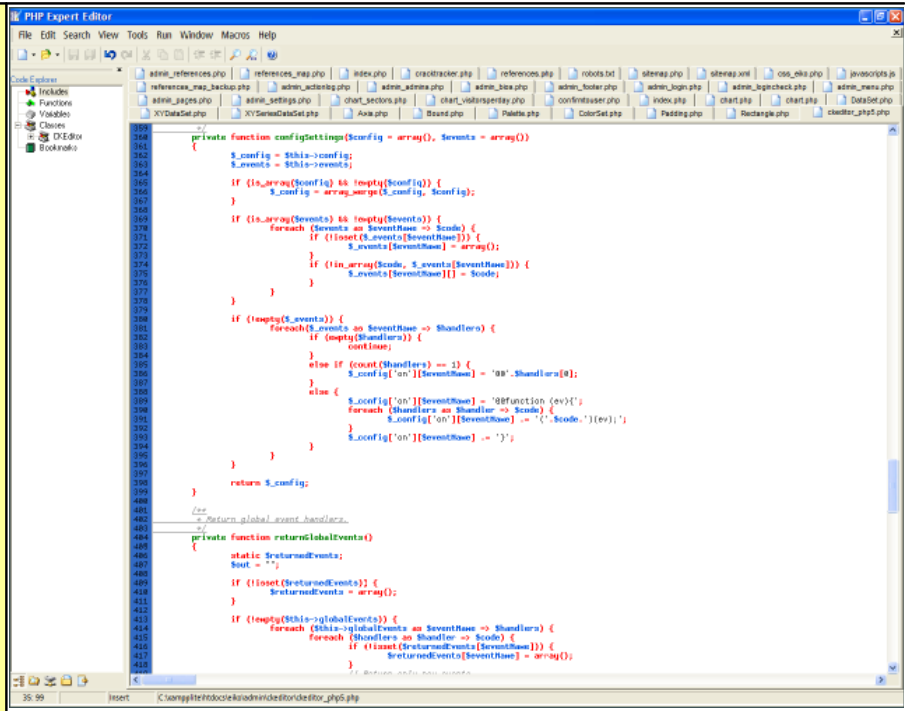
- Master Administrator (can also add / edit / delete Admin accounts)
- Assistant Administrator (can't access other Admin accounts, can't change own level)
- receives an email whenever the Website Settings were changed (see menu at left)

Programming Clarity

It's important – but usually not done by most web developers – that websites are programmed by writing **clear and well-organized programming code**. If in the future other programmers have to make functional / structural changes, they'll be lost if the code is "messy" or too complex: This is also a **cost factor** for clients – which is often overlooked.

I programmed this site in a clear way:

- All functions have written **comments**
- **Variables** are **clearly** named, not "\$a"
- **Secure** code [sanitizing all inputs etc.]
- **Short** folder hierarchy [not ./.././../]
- If clearer and faster: object-oriented
- In all other cases: procedural coding



```
private function configSettings($config = array(), $events = array())
{
    $s_config = $this->config;
    $s_events = $this->events;

    if (is_array($config) && !empty($config)) {
        $s_config = array_merge($s_config, $config);
    }

    if (is_array($events) && !empty($events)) {
        foreach ($events as $eventname => $code) {
            if (!isset($s_events[$eventname])) {
                $s_events[$eventname] = array();
            }
            if (is_array($code) && !empty($code)) {
                $s_events[$eventname][] = $code;
            }
        }
    }

    if (!empty($s_events)) {
        foreach ($s_events as $eventname => $handlers) {
            if (!empty($handlers)) {
                continue;
            }
            else if (count($handlers) == 2) {
                $s_config['on'][$eventname] = '00';
            }
            else {
                $s_config['on'][$eventname] = '0function (ev){
                    foreach ($handlers as $handler => $code) {
                        $s_config['on'][$eventname] .= '{'. $code .'}(ev);
                    }
                }';
            }
        }
    }

    return $s_config;
}

/**
 * Return global event handlers
 */
private function returnGlobalEvents()
{
    static $returnEvents;
    $ret = array();

    if (!isset($returnEvents)) {
        $returnEvents = array();

        if (!empty($this->globalEvents)) {
            foreach ($this->globalEvents as $eventname => $handlers) {
                foreach ($handlers as $handler => $code) {
                    if (!isset($returnEvents[$eventname])) {
                        $returnEvents[$eventname] = array();
                    }
                }
            }
        }
    }

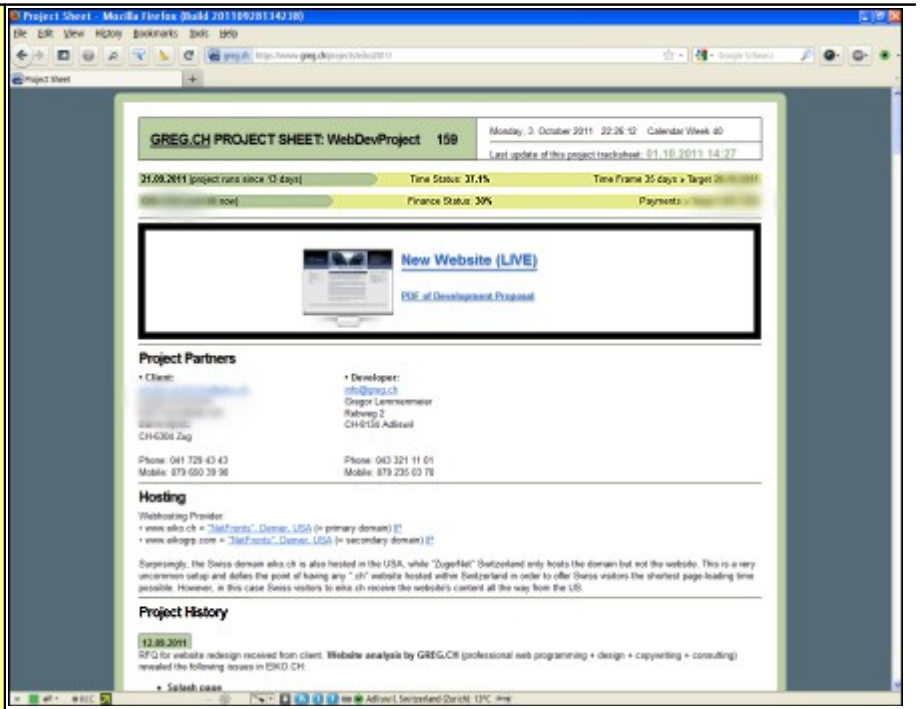
    return $returnEvents;
}
```

Project Documentation

It's important – but usually not done by most web developers – that websites are **clearly documented for the client**.

I documented this site in a clear way:

- Online prototype (client "follows live")
- PW-protected **Project Tracksheet**
- Get an email when client accesses it
- **Autom. charts** (time %, and paid %)
- Give client all he needs for a review
- Notes of all new client requirements
- Notes of all agreed project changes
- **Chronological structure**, with dates
- Screenshots of new layout solutions
- Include all important **contact data**
- Include infos on **webhosting account**
- Include **infos, tips, and give reasons**



SEO - The Challenge

No search engine optimization was previously done for the client's domain and the domain was very poorly indexed by Google. This called for a lot of work and **latest OnPage-SEO methods** to improve Google Rankings.

Example A: The **<title>**, **<h1>** and **<h2>** headings must all contain the main keyword "Immobilien", and they do.

Example B: The first link that the Googlebots will follow is the internal **sitemap.php** page, for deeper indexing. The success of these will be slow – as always in SEO. It usually takes weeks till desired effects are noticeable.

In Google Webmaster Tools, I submitted/verified the **XML sitemap**. I **removed all old links** from Google. To be notified if the website is down (if ever), I registered an auto-notification at **www.changedetection.com**. I also advised the client on registering Facebook (group) and Twitter accounts for business, and how to use **www.checkname.com** before registering any such accounts – **links from social networks help** the SEO a lot.

I also advised the client to notify some of his business partners by asking them to **place links to his website**.

Finally, I placed a link to the client's site from my own (which has Google PageRank **6** so the link is powerful).

Client Satisfaction

The written testimonial that I received from the client (CEO) says: "Absolutely perfect work! We are excited."

This case study was written by
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WEB DEVELOPMENT